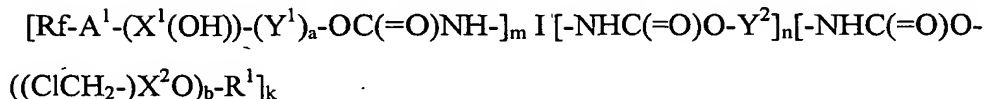


CLAIMS

1. A fluorine-containing urethane compound of the general formula:



(1)

wherein I is a group remaining after an isocyanate group is removed from a polyisocyanate compound,

Rf is a perfluoroalkyl group having 2 to 21 carbon atoms,

A¹ is a direct bond or a divalent organic group having 1 to 21 carbon atoms,

X¹ and X² are trivalent linear or branched aliphatic group having 2 to 5 carbon atoms,

Y¹ is a divalent organic group having 0 to 5 carbon atoms and 0 to 2 nitrogen atoms (provided that at least one carbon atom or nitrogen atom is present) and at least one hydrogen atom,

Y² is a monovalent organic group optionally having a hydroxyl group,

R¹ is a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,

a is the number of 0 or 1,

b is the number of 1 to 20,

m is the number of 1 to 15,

n and k are the number of 0 to 14, and

the total of m, n and k is the number of 2 to 15.

2. The fluorine-containing urethane compound according to claim 1, wherein the polyisocyanate compound constituting the I group is an aliphatic polyisocyanate, an aromatic polyisocyanate, or a derivative of these polyisocyanates.

3. The fluorine-containing urethane compound according to claim 1, wherein the polyisocyanate compound constituting the I group is a diisocyanate, a polymeric diphenylmethane diisocyanate, or a modified isocyanate.

4. The compound according to claim 1, wherein the A^1 group is of the formula:

$-(CH_2)_p-$

$-CONR^{11}-R^{12}-$

5 $-CH_2C(OH)HCH_2-$

$-CH_2C(OCOR^{13})HCH_2-$ or

$-O-Ar-CH_2-$

wherein R^{11} is hydrogen or an alkyl group having 1 to 10 carbon atoms,

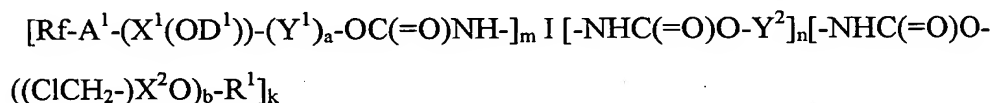
R^{12} is an alkylene group having 1 to 10 carbon atoms,

10 R^{13} is hydrogen or a methyl group,

Ar is an arylene group (having, for example, 6 to 20 carbon atoms) optionally having a substituent, and

p is the number of 1 to 10.

15 5. A fluorine-containing urethane compound of the general formula:



(2)

wherein I is a group remaining after an isocyanate group is removed from a polyisocyanate compound,

20

Rf is a perfluoroalkyl group having 2 to 21 carbon atoms,

A^1 is a direct bond or a divalent organic group having 1 to 21 carbon atoms,

X^1 and X^2 are trivalent linear or branched aliphatic group having 2 to 5 carbon atoms,

D^1 is a residue resulting from the reaction between an active hydrogen-reactive compound

25

and active hydrogen of a hydroxyl group,

Y^1 is a divalent organic group having 0 to 5 carbon atoms and 0 to 2 nitrogen atoms (provided that at least one carbon atom or nitrogen atom is present) and at least one hydrogen atom,

Y^2 is a monovalent organic group optionally having a hydroxyl group,

R^1 is a hydrogen atom or an alkyl group having 1 to 10 carbon atoms,

a is the number of 0 or 1,

b is the number of 1 to 20,

m is the number of 1 to 15,

5 n and k are the number of 0 to 14, and

the total of m, n and k is the number of 2 to 15.

6. A composition comprising the fluorine-containing urethane compound according to claim 1 or 5, an emulsifying agent and water.

10

7. A treatment agent comprising the composition according to claim 6.

8. A method of treating a textile with the treatment agent according to claim 7.